



## Electrical Safety

Electricity is the most commonly used source of power in the workplace. It is also one of the leading causes of industrial injuries.

There is a very strong chance that many of you reading this article right now have an unmitigated electrical hazard in your workplace and may not even be aware of it; perhaps a fire hazard from an overloaded electrical outlet, a shock hazard from an unguarded electrical panel, or even an explosion hazard from an improperly installed electrical device. While electrical hazards are a serious danger, they can be easily mitigated.

Improperly installed electrical devices and wiring can lead to injuries. Ensure that all electrical devices and wiring are installed by qualified personnel. A qualified person is designated by the employer and, who by reason of training, experience, or instruction, has demonstrated the ability to safely perform all assigned duties. And, when required, is properly licensed in accordance with federal, state, or local laws and regulations (Title 8 §2320.1).

Unidentified equipment and lack of work space around equipment are dangerous during an emergency when time is of the essence. Ensure all electrical panels are accessible and each breaker is labeled properly; indicate what each breaker shuts off (Title 8 §2340.22).

Unguarded energized wiring and equipment can cause accidental contact. Energized wiring equipment should be guarded by one or any of the following means according to California Occupational Safety and Health (Cal/OSHA) (Title 8 §2340.17):

- By location in a room, vault, or similar enclosure that is accessible only to qualified personnel.
- By suitable permanent, substantial partitions or screens arranged so that only qualified persons have access to the space within reach of the energized parts. Any openings in such partitions or screens shall be sized and located that persons are not likely to come into accidental contact with the energized parts, or able to bring conducting objects into contact with them.
- By location on a suitable balcony, gallery, or platform elevated and not accessible by unqualified persons.
- By elevation of eight feet or more above the floor or other working surface.

Additional electrical hazards found in the workplace include:

- Lack of Ground Fault Circuit Interrupt (GFCI) on circuit: Ensure that GFCI devices are used in all necessary applications (see [National Electrical Code 210.8](#) for information regarding when GFCIs are required).
- Splicing of extension and power cords: Ensure that flexible electrical cords are only used in continuous lengths without splice or tap. ([Title 8 §2500.9](#))
- Overuse of temporary wiring: Do not use temporary wiring (extension cords) for permanent wiring situations. Temporary wiring is only allowed under the following circumstances ([Title 8 §2405.1](#)):
  - During construction, remodeling, maintenance, repairs, or demolition of buildings, structures, equipment, or similar activities.
  - For a period not to exceed 90 days for work associated with non-permanent work locations, such as carnivals, music festivals, holiday decorative lighting and tree lots, and similar purposes.
  - For the period of work associated with experimental or developmental work, and during emergencies.
- Working on energized equipment: Do not perform work on energized equipment unless there is no other alternative. The work should only be done by qualified personnel wearing Personal Protective Equipment (PPE) that is appropriate to the situation ([Title 8 §2320.1](#) and [Title 8 §2320.2](#)).
- Overloading electrical cords: Do not overload electrical cords by daisy chaining them together (running multiple power cords/strips off of each other on one circuit, ([Title 8 §2390.1](#)).
- Unmitigated electrical hazard: When coming upon an unmitigated electrical hazard always do the following:
  - Guard against the hazard by cordoning off the area.
  - Keep a wide girth while cordoning off the dangerous area; do not expose yourself to injury.
  - Send someone to notify management of the potential hazard and keep watch that no one else enters the area.
  - Management should then contact a qualified person to mitigate the hazard.

Remember, electrical hazards may be dangerous, but the potential risk of injury is easily mitigated by qualified personnel.